Division of Public Health Services
Bureau of Emergency Preparedness and Response

Nonpharmaceutical Interventions Community Containment Plan for Pandemic Influenza

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1.0 Introduction

Influenza viruses have plagued the globe for centuries. However, a pandemic only occurs when a novel strain of the virus emerges, leaving the human population vulnerable and without immunity. The pandemic threat we are currently facing is a new influenza strain, Influenza A (H5N1). Presently, human-to-human transmission has been limited, but once a pandemic begins, it cannot be easily controlled.

It is unlikely that a well-matched pandemic strain vaccine will be available during the first six to nine months for mass distribution in the event of pandemic influenza. In addition, it is unknown if currently available antiviral medications will be effective against a novel pandemic virus. In the interim, the State of Arizona is prepared to implement the layered use of nonpharmaceutical interventions (NPIs) as outlined in this community containment plan. The plan addresses the strategic mitigation efforts that the Centers for Disease Control and Prevention (CDC) offers in the *Interim Pre-pandemic Planning Guidance: Community Strategy for Pandemic Influenza Mitigation in the United States* document. Each Arizona local County public health department is responsible for preparing their County specific operations-based community containment plan. These County plans also shall address community containment issues on tribal lands within their County boundaries.

The CDC's guidance document, with input from other Federal agencies, key stakeholders, and partners, including a working group of public health officials and other stakeholders, provides a community mitigation framework based upon early, targeted and layered strategies involving the direct application of multiple partially effective nonpharmaceutical measures initiated early and maintained consistently during an epidemic wave. These interventions include the following:

1. Isolation and treatment (as appropriate) with influenza antiviral medications of all persons with confirmed or probable pandemic influenza. Isolation may occur in the home or healthcare setting, depending on the severity of an individual's illness and/or the current capacity of the healthcare infrastructure.
2. Voluntary home quarantine of members of households with confirmed or probable influenza case(s) and consideration of combining this intervention with the prophylactic use of antiviral medications, providing sufficient quantities of effective medications exist and that a feasible means of distributing them is in place.
3. Dismissal of students from school (including public and private schools as well as colleges and universities) and school-based activities and closure of childcare programs, coupled with protecting children and teenagers through social distancing in the community to achieve reductions of out-of-school social contacts and community mixing.
4. Use of social distancing measures to reduce contact between adults in the community and workplace, including, for example, the cancellation of large public gatherings and alteration of workplace environments and schedules to decrease social density and preserve a healthy workplace to the greatest extent possible without disrupting essential services. Workplace leave policies that align incentives and facilitate adherence with the NPIs outlined above must be considered and developed by businesses and government agencies.

The effectiveness of individual infection control measures (e.g., cough etiquette, hand hygiene) and the role of surgical masks or respirators in preventing the transmission of influenza are currently unknown. However, cough etiquette and hand hygiene will be universally recommended, and the use of surgical masks and/or respirators may be appropriate in certain settings. Decisions about what tools should be used during a pandemic should be based on the observed severity of the event, its impact on specific subpopulations, the expected benefit of the interventions, the feasibility of success in modern society, the direct and indirect costs, and the consequences on critical infrastructure, healthcare delivery, and society. The most controversial elements (e.g., prolonged dismissal of students from schools and closure of childcare programs) are not likely to be needed in less severe pandemics, but these steps may save lives during severe pandemics. Just as communities plan and prepare for mitigating the effects of severe natural disasters, they should plan and prepare for mitigating the effect of a severe pandemic.

2.0 Goal of the Plan

The goal of the plan is to document Arizona's recommended methods to activate nonpharmaceutical interventions in the community utilizing the Pandemic Severity Index (PSI) and pandemic intervals and triggers. The PSI is a tool developed by the CDC to aid communities in assessing which pandemic mitigation interventions to implement based on the severity of the pandemic in the population. This plan has been forwarded and reviewed by all County Health departments within the State of Arizona and is used as a model for their own planning and response to an influenza pandemic.

3.0 Concept of Operations

The decision to implement various means of nonpharmaceutical interventions and community containment measures begins at the local level. National guidance from the CDC, the characteristics of the influenza strain, local and statewide disease surveillance of the virus, and unique circumstances including resource availability in the community will help provide thresholds in which to potentially take such actions. Supplement 8, *Community Disease Control and Prevention*, of the Arizona Influenza Pandemic Response Plan, located at http://www.azdhs.gov/pandemicflu/pandemic_flu_plan.htm, references the legal authorities for isolation and quarantine in the state of Arizona, describes the process and has samples of State legal documents necessary by statute to implement isolation and quarantine.

The Arizona Department of Health Services (ADHS) works closely with the County health departments and pandemic influenza coordinating committees to ensure that local community containment plans are in-place and functional. The State has provided this plan as a template for strategic initiatives regarding the implementation of nonpharmaceutical interventions. Each local jurisdiction maintains an operational plan outlining specific procedures for locations under their authority. Plans and related documents are uploaded to the State's Secure Integrated Response Electronic Notification (SIREN) system where they are regularly reviewed and commented on by ADHS staff.

The three major goals of mitigating a community-wide epidemic through nonpharmaceutical interventions are 1) delay the exponential increase in incident cases and shift the epidemic curve to the right in order to "buy time" for production and distribution of a well-matched pandemic strain

vaccine, 2) decrease the epidemic peak, and 3) reduce the total number of incident cases and, thus reduce morbidity and mortality in the community. These three major goals of epidemic mitigation may all be accomplished by focusing on the single goal of reducing transmission. NPIs may help reduce influenza transmission by reducing contact between sick persons and uninfected persons, thereby reducing the number of infected persons. Reducing the number of persons infected will also lessen the need for healthcare services and minimize the impact of a pandemic on the economy and society. The surge of need for medical care associated with a poorly mitigated severe pandemic can be only partially addressed by increasing capacity within hospitals and other care settings. Thus, reshaping the demand for healthcare services by using NPIs is an important component of the overall strategy for mitigating a severe pandemic.

3.1 Social Density

One measure for decreasing transmission of an influenza virus is by increasing the distances among people in work, community, and school settings. Schools and pre-schools represent the most socially dense of these environments. Social density is greatest in pre-school classrooms, with guidelines for occupancy density specifying 35-50 square feet per child. Published criteria for classroom size based upon the number of students and one teacher recommend an elementary school and high school classroom density of 49 and 64 square feet per person respectively. There is more space per person in work and healthcare settings, with high variability from one setting to another; for example, occupancy density in hospitals is about 190 square feet per person. Office buildings have an average occupational density of 390-470 square feet per person. Homes represent the least socially dense environment (median occupancy density of 734 square feet per person in single-family homes). (CDC, 2007)

Public transportation, including subways and transit buses, represents another socially dense environment. There were on average 32.8 million unlinked passenger trips each weekday for all public transportation across the United States in 2004, nearly 20 million of which were by bus. More than half of these 32.8 million passenger trips are work related (54 %) and about 15 % of these trips are school related. Each day, 144,000 public transit vehicles, including 81,000 buses, are in use.

Targeting Schools, Childcare, and Children

Biological, social, and maturational factors make children especially important in the transmission of influenza. Children without pre-existing immunity to circulated influenza viruses are more susceptible than adults to infection and, compared with adults, are responsible for more secondary transmission within households. Compared with adults, children usually shed more influenza virus, and they shed virus for a longer period. They also are not skilled in handling their secretions, and are in close proximity with many other children for most of the day at school. Schools, in particular, serve as amplification points of seasonal community influenza epidemics, and children are thought to play a significant role in introducing and transmitting influenza virus within their households.

More than half the children attending school (K-12) in Arizona travel on a school bus, which equates to an estimated 1.1 million person trips daily (to school and back home). The number of school children traveling via school bus and via public transportation during a school day is twice

the number of people taking all public transportation in the State of Arizona in terms of number of trips and number of individuals during a weekday.

Therefore, given the disproportionate contribution of children to disease transmission and epidemic amplification, targeting their social networks both within and outside of schools would be expected to disproportionately disrupt influenza spread. Given that children and teens are together at school for a significant portion of the day, dismissal of students from school could effectively disrupt a significant proportion of influenza transmission within these age groups. However, re-congregation and social mixing of children at alternate settings could offset gains associated with disruption of their social networks in schools. For this reason, dismissal of students from schools and, to the extent possible, protecting children and teenagers through social distancing in the community, to include reductions of out-of-school social contacts and community mixing, are proposed as a bundled strategy for disrupting their social networks and, thus, the associated disease transmission pathways for this age group.

Targeting Adults: Social Distancing at Work and in the Community

Eliminating schools as a focus of epidemic amplification and reducing the social contacts for children and teens outside the home will change the locations and dynamics of influenza virus transmission. The social compartments within which the majority of disease transmission will likely take place will be the home and workplace, and adults will play a more important role in sustaining transmission chains. Disrupting adult-to-adult transmission will offer additional opportunities to suppress epidemic spread. The adoption by individuals of infection control measures, such as hand hygiene and cough etiquette, in the community and workplace will be strongly encouraged.

In addition, adults may further decrease their risk of infection by practicing social distancing and minimizing their non-essential social contacts and exposure to socially dense environments. Low-cost and sustainable social distancing strategies can be adopted by individuals within their community (e.g., going to the grocery store once a week rather than every other day, avoiding large public gatherings) and at their workplace (e.g. spacing people farther apart in the workplace, tele-working when feasible, substituting teleconferences for meetings) for the duration of a community outbreak. Employers are encouraged to establish liberal/unscheduled leave policies, under which employees may use available paid or unpaid leave without receiving prior supervisory approval so that workers who are ill or have ill family members are excused from their responsibilities until their family members' symptoms are resolved. In this way, the amount of disease transmission that occurs in the workplace can be minimized, making the workplace a safer environment for other workers.

Healthcare workers may be prime candidates for targeted antiviral prophylaxis once supplies of the drugs are adequate to support this use. Moreover, beyond the healthcare arena, employers who operate or contract for occupational medical services could consider a cache of antiviral drugs in anticipation of a pandemic and provide prophylactic regimens to employees who work in critical infrastructure businesses, occupy business-critical roles, or hold jobs that put them at repeated high risk of exposure to the pandemic virus. This use of antiviral drugs may be considered for inclusion in a comprehensive pandemic influenza response and may be coupled with NPIs. Strategies

ensuring workplace safety will increase worker confidence and may discourage unnecessary absenteeism.

4.0 Pandemic Severity, Intervals & Triggers

4.1 Pandemic Severity Index

Appropriate matching of the intensity of intervention to the severity of a pandemic is important to maximize the available public health benefit that may result from using an early, targeted, and layered strategy while minimizing untoward secondary effects. To assist pre-pandemic planning in Arizona, this plan introduces the concept of a Pandemic Severity Index based primarily on case fatality ratio, a measurement that is useful in estimating the severity of a pandemic on a population level and which may be available early in a pandemic for small clusters of outbreaks. Excess mortality rate may also be available early and may supplement and inform the determination of the Pandemic Severity Index. Pandemic severity is described within five discrete categories listed Category 1 to Category 5. Other epidemiologic features that are relevant in the overall analysis of mitigation plans include total illness rate, age-specific illness and mortality rates, the reproductive number, intergeneration time, and incubation period. However, it is unlikely that estimates will be available for most of these parameters during the early stages of a pandemic; thus, they are not as useful from a planning perspective.

The PSI provides a tool for scenario-based contingency planning to guide pre-pandemic planning efforts. Upon declaration by WHO of having entered the Pandemic Period (Phase 6) and further determination of U.S. Government Stage 3, 4, or 5, the CDC's Director shall designate the category of the emerging pandemic based on the Pandemic Severity Index and consideration of other available information. Pending this announcement, communities facing the imminent arrival of pandemic disease will be able to define which pandemic mitigation interventions are most indicated for implementation based on the level of pandemic severity.

Figure 1: Pandemic Severity Index (Assumes 30% Illness Rate with Unmitigated Pandemic Intervention)

Case Fatality Ratio		Projected Number of Deaths U.S. Population, 2006
>2.0%	Category 5	>1,800,000
1.0 - <2.0%	Category 4	900,000 - <1,800,000
0.5 - <1.0%	Category 3	450,000 - <900,000
0.1 - <0.5%	Category 2	90,000 - <450,000
<0.1%	Category 1	<90,000

Figure 1 provides a graphic depiction of the U.S. Pandemic Severity Index by case fatality ratio, with ranges of projected U.S. deaths at a constant 30 percent illness rate and without mitigation by any intervention. Data on case fatality ratio and excess mortality in the early course of next pandemic will be collected during outbreak investigations of initial clusters of human cases, and public health officials may make use of existing influenza surveillance systems once widespread transmission starts. However, it is possible that at the onset of an emerging pandemic, very limited information about cases and deaths will be known. Efforts now to develop decision algorithms based on partial data and efforts to improve global surveillance systems for influenza are needed.

Multiple parameters may ultimately provide a more complete characterization of a pandemic. The age-specific and total illness and mortality rates, reproductive number, intergeneration time, and incubation period as well as population structure and healthcare infrastructure are important factors

in determining pandemic impact. Although many factors may influence the outcome of an event, it is reasonable to maintain a single criterion for classification of severity for the purposes of guiding contingency planning. If additional epidemiologic characteristics become well established during the course of the next pandemic through collection and analysis of surveillance data, then the State may develop a subset of scenarios, depending upon, for example, age specific mortality rates.

Table 1 provides a categorization of pandemic severity by case fatality ratio, the key measurement in determining the Pandemic Severity Index, and excess mortality rate. In addition, Table 1 displays ranges of illness rates with potential numbers of U.S. deaths per category, with recent U.S. pandemic experience and U.S. seasonal influenza to provide historical context.

Table 1: Pandemic Severity Index by Epidemiological Characteristics

Characteristics	Pandemic Severity Index (PSI)				
	Category 1	Category 2	Category 3	Category 4	Category 5
Case Fatality Ratio (percentage)	<0.1	0.1-<0.5	0.5-<1.0	1.0-<2.0	≥2.0
Excess Death Rate (per 100,000)	<30	30-<150	150-<300	300-<600	≥600
Illness Rate (% of population)	20-40	20-40	20-40	20-40	20-40
Potential Number of Deaths based on 2006 U.S. population)	<90,000	90,000-<450,000	450,000-<900,000	9000,000-<1.8 million	≥1.8 million
20th Century U.S. Experience	Seasonal Influenza (Illness rate 5-20%)	1957, 1968	None	None	1918 Pandemic

4.2 Pandemic Intervals & Triggers

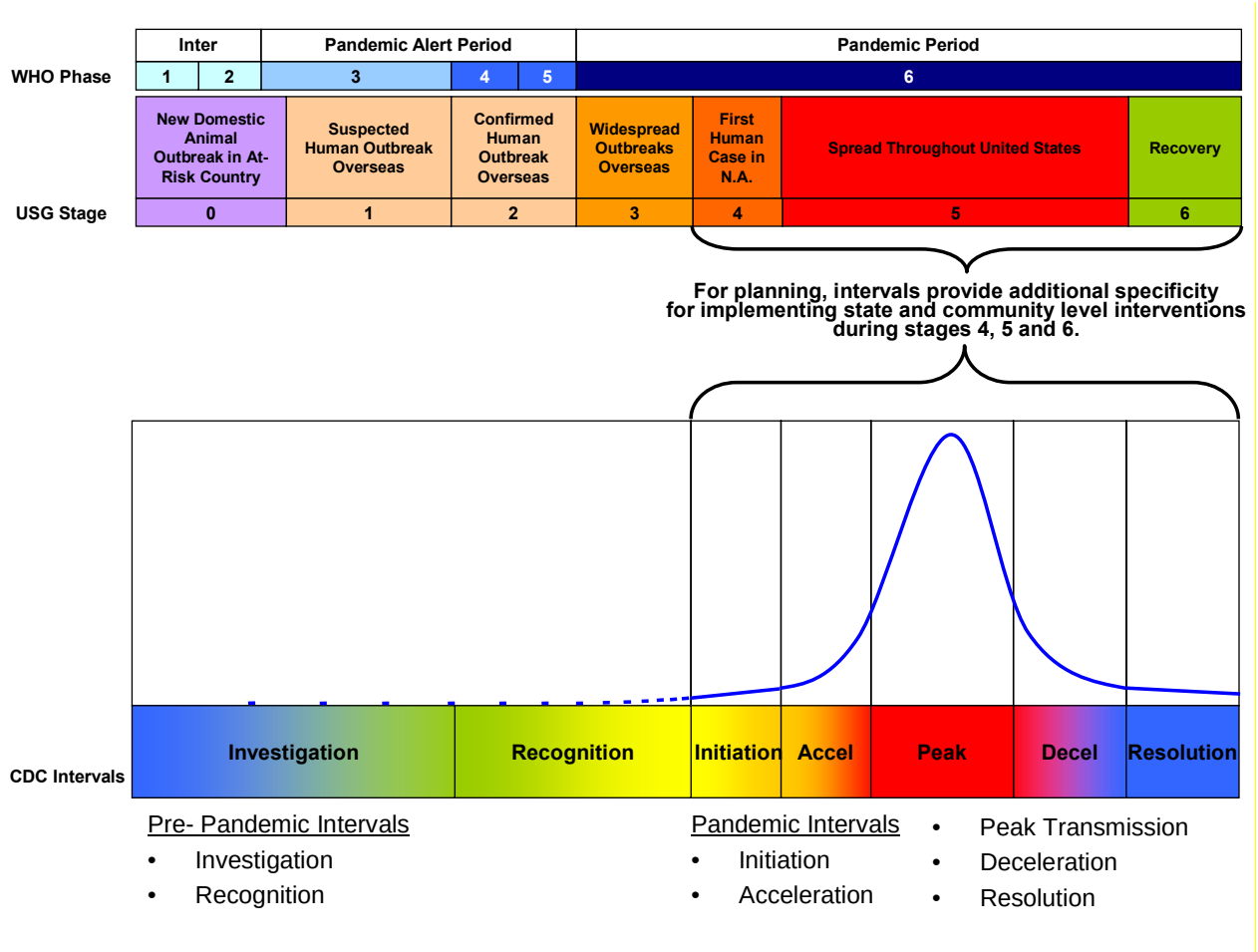
Typically, epidemic curves are used to monitor an outbreak as it is occurring or to describe the outbreak retrospectively. Specifically, they are useful for noting the possible effects of interventions; graphically showing when they are or were implemented relative to the rise and fall of the epidemic. Model epidemic or pandemic curves can also be used to describe likely events over time. These hypothetical models may be particularly valuable prospectively for anticipating conditions and identifying the key actions that could be taken at certain points in time to alter the epidemic or pandemic curve. Classic epidemic curves have been described in the literature as having a: growth phase, hyper-endemic phase, decline, endemic or equilibrium phase, and potentially an elimination phase.

For the purposes of pandemic preparedness, Arizona will use the intervals to describe the progression of the pandemic within communities in the State to help provide a more granular framework for defining when to respond with various interventions during U.S. Government stages 4, 5 and 6 (see Figure 2).

While it is difficult to forecast the duration of a pandemic, it is expected that there will be definable periods between when the pandemic begins, when transmission is established and peaks, when resolution is achieved, and when subsequent waves begin. While there will be one epidemic curve for the United States, the larger curve is made up of many smaller curves that occur on a community by community basis. Therefore, the intervals serve as additional points of reference within the phases and stages to provide a common orientation and better epidemiologic understanding of what is taking place. The intervals can assist in identifying when to intervene in these affected communities and are also a valuable means for communicating the status of the pandemic by quantifying different levels of disease, and linking them with triggers for interventions.

The intervals are designed to inform and complement the use of the Pandemic Severity Index (PSI) for choosing appropriate community mitigation strategies. The PSI guides the range of interventions to consider and/or implement given the epidemiological characteristics of the pandemic. The intervals are more closely aligned with triggers to indicate *when* to act, while the PSI is used to indicate *how* to act.

Figure 2: Periods, Phases, Stages, and Intervals



Definitions of the Pandemic Intervals:

The term "Affected" indicates that Arizona has met the definition for the interval. "Unaffected" means that Arizona has not met the definition for the interval at a time when other states have met the definition.

Investigation Interval – Investigation of Novel Influenza Cases: This pre-pandemic interval represents the time period when sporadic cases of novel influenza may be occurring overseas or within the United States. During this interval, public health authorities will use routine surveillance and epidemiologic investigations to identify human cases of novel influenza and assess the potential for the strain to cause significant disease in humans. Investigations of animal outbreaks also will be conducted to determine any human health implications. During this interval, pandemic preparedness efforts should be developed and strengthened. Case-based control measures (i.e., antiviral treatment and isolation of cases and antiviral prophylaxis of contacts) are the primary public health strategy for responding to cases of novel influenza infection.

Affected – Arizona has a sporadic case of novel influenza that is detected/confirmed.

- Voluntarily isolate and treat human cases
- Voluntarily quarantine if human-to-human transmission is suspected, monitor, and provide chemoprophylaxis to contacts
- Assess case contacts to determine human to human transmission and risk factors for infection
- Share information with animal and human health officials and other stakeholders, including reporting of cases according to the Nationally Notifiable Diseases Surveillance System and sharing virus samples
- Disseminate risk communication messages

Unaffected – Arizona is not currently investigating novel influenza cases.

- Continue to maintain State surveillance
- Continue to build State and local countermeasures stockpile
- Continue to develop and promote community mitigation preparedness activities, including plans and exercises
- Continue refining and testing healthcare surge plans

Recognition Interval – Recognition of Efficient and Sustained Transmission: This interval occurs when clusters of cases of novel influenza virus in humans are identified and there is confirmation of sustained and efficient human-to-human transmission indicating that a pandemic strain has emerged overseas or within the United States. During the recognition interval, public health officials in the affected country and community will attempt to contain the outbreak and limit the potential for further spread in the original community. Case-based control measures, including isolation and treatment of cases and voluntary quarantine of contacts, will be the primary public health strategy to contain the spread of infection. However, the addition of rapid implementation of community-wide antiviral prophylaxis may be attempted to fully contain an emerging pandemic.

Affected – Arizona has human to human transmission of a novel influenza virus, infection is occurring and the transmission of the virus has an efficiency and sustainability that indicates it has

potential to cause a pandemic. This represents the detection of a potential pandemic in the U.S. before recognition elsewhere in the world.

- Continue/initiate actions as above (Investigation)
- Implement case-based investigation and containment
- Implement voluntary contact quarantine and chemoprophylaxis
- Confirm all suspect cases at public health laboratory
- Consider rapid containment of emerging pandemic influenza
- Report cases according to Nationally Notifiable Diseases Surveillance System
- Conduct enhanced pandemic surveillance
- Prepare to receive SNS countermeasures
- Disseminate risk communication messages, including when to seek care and how to care for ill at home
- Implement appropriate screening of travelers and other border health strategies, as directed by CDC

Unaffected – Arizona has not met the criteria above. This may represent that recognition of a potential pandemic is occurring in another state, or is occurring outside the United States.

- Continue/initiate actions as above (Investigation)
- Prepare for investigation and response
- Conduct enhanced pandemic surveillance
- Prepare to receive SNS countermeasures
- Disseminate risk communication messages
- Implement appropriate screening of travelers and other border health strategies, as directed by CDC

Initiation Interval – Initiation of the Pandemic Wave: This interval begins with the identification and laboratory-confirmation of the first human case due to pandemic influenza virus in the United States. If the United States is the first country to recognize the emerging pandemic strain, then the "Recognition" and "Initiation" intervals are the same for affected states. As this interval progresses, continued implementation of case-based control measures (i.e., isolation and treatment of cases, voluntary prophylaxis and quarantine of contacts) will be important, along with enhanced surveillance for detecting potential pandemic cases to determine when community mitigation interventions will be implemented.

Affected – Arizona has at least one laboratory-confirmed pandemic case.

- Continue/initiate actions as above (Recognition)
- Declare Community Mitigation Standby if PSI Category 1 to 3, declare Alert if PSI Category is 4 or 5
- Continue enhanced State and local surveillance
- Implement (pre-pandemic) vaccination campaigns if (pre-pandemic) vaccine is available
- Offer mental health services to health care workers**.**

Unaffected – Arizona has no laboratory-confirmed pandemic cases.

- Continue/initiate actions as above (Recognition)
- Declare Community Mitigation Standby if PSI Category 4 or 5
- Prepare for investigation and response

- Prepare for healthcare surge
- Review and prepare to deploy mortuary surge plan
- Deploy State/local caches
- Prepare to transition into emergency operations

Acceleration Interval – Acceleration of the Pandemic Wave: This interval begins in a State when public health officials have identified that containment efforts have not succeeded, onward transmission is occurring, or there are two or more laboratory-confirmed cases in the State that are not epidemiologically linked to any previous case. It will be important to rapidly initiate community mitigation activities such as school dismissal and childcare closures, social distancing, and the efficient management of public health resources. Isolation and treatment of cases along with voluntary quarantine of contacts should continue as a key mitigation measure. Historical analyses and mathematical modeling indicate that early institution of combined, concurrent community mitigation measures may maximize reduction of disease transmission (and subsequent mortality) in the affected areas.

Affected – Arizona has two or more laboratory-confirmed pandemic cases in a state that are not epidemiologically linked to any previous case; or, has increasing numbers of cases that exceed resources to provide case-based control measures

- Continue/initiate actions as above (Initiation)
- Activate community mitigation interventions for affected communities
- Transition from case-based containment/contact chemoprophylaxis to community interventions
- Transition surveillance from individual case confirmation to mortality and syndromic disease monitoring
- Begin pre-shift healthcare worker physical and mental health wellness screening
- Implement vaccination campaigns if (pre-pandemic) vaccine is available
- Monitor vaccination coverage levels, antiviral use, and adverse events
- Monitor effectiveness of community mitigation activities

Unaffected – Arizona has not met the criteria above.

- Continue/initiate actions as above (Initiation)
- Prepare for investigation and response
- Prepare for healthcare surge
- Review and prepare to deploy mortuary surge plan
- Deploy State/local caches
- Prepare to transition into emergency operations
- Implement vaccination campaigns if (pre-pandemic) vaccine is available
- Monitor vaccination coverage levels, antiviral use, and adverse events

Peak/Established Transmission Interval – Transmission is Established and Peak of the Pandemic Wave: This interval encompasses the time period when there is extensive transmission in the community and the State has reached its greatest number of newly identified cases. The ability to provide treatment when the healthcare system is overburdened will be particularly challenging. To reduce the societal effects of the pandemic, available resources must be optimized to maintain the critical infrastructure and key resources in the face of widespread disease.

Affected – Arizona has 1) >10% of specimens from patients with influenza-like illness submitted to the State public health laboratory are positive for the pandemic strain during a seven day period, or, 2) "regional" pandemic influenza activity is reported by the State Epidemiologist using CDC-defined criteria, or, 3) the healthcare system surge capacity has been exceeded.

- Continue/initiate actions as above (Acceleration)
- Manage health care surge
- Maintain critical infrastructure and key resources
- Laboratory confirmation of only a sample of cases as required for virologic surveillance
- Implement surveillance primarily for mortality and syndromic disease

Unaffected – As transmission increases in the U.S., states are likely to be in different intervals. Thus, Arizona should anticipate the actions needed for subsequent intervals and plan accordingly.

Deceleration Interval – Deceleration of the Pandemic Wave: During this interval, it is evident that the rates of pandemic infection are declining. The decline provides an opportunity to begin planning for appropriate suspension of community mitigation activities and recovery. State health officials may choose to rescind community mitigation intervention measures in selected regions within their jurisdiction, as appropriate; however mathematical models suggest that cessation of community mitigation measures are most effective when new cases are not occurring or occur very infrequently.

Affected – Arizona has <10% of specimens from patients with influenza-like illness submitted to the State public health laboratory are positive for the pandemic strain for at least two consecutive weeks, or, the healthcare system capacity is below surge capacity.

- Continue/initiate actions as above (Peak/Established Transmission)
- Assess, plan for, and implement targeted cessation of community mitigation measures if appropriate
- Transition surveillance from syndromic to case-based monitoring and confirmation
- Initiate targeted cessation of surge capacity strategies
- Maintain aggressive infection control measures in the community

Resolution Interval – Resolution of the Pandemic Wave: In this interval, pandemic cases are occurring only sporadically. The primary actions to be taken during this interval include discontinuing all community mitigation interventions, facilitating the recovery of the public health and healthcare infrastructure, resuming enhanced surveillance protocols to detect possible subsequent waves, and preparing for next waves of infection should they occur.

Affected – Arizona has active virologic surveillance that detects pandemic cases occurring sporadically.

- Continue/initiate actions as above (Deceleration)
- Rescind community mitigation interventions
- Continue case confirmation of selected cases to verify resolution of pandemic wave
- Resume enhanced virologic surveillance to detect emergence of increased transmission.
- Prepare for possible second wave

- Continue to promote community mitigation preparedness activities on standby for second wave
- Conduct after-action review for lessons learned
- Replenish stockpiles/caches if possible

From a pre-pandemic planning perspective, the steps between recognition of a pandemic threat and the decision to activate a response are critical to successful implementation. Thus, a key component is the development of scenario-specific contingency plans for pandemic response that identify key personnel, critical resources, and processes. To emphasize the importance of this concept, this CDC guidance introduces the terminology of *Alert, Standby,* and *Activate,* which reflect key steps in escalation of the response action.

Alert: Includes notification of critical systems and personnel of their impending activation.

Standby: Includes initiation of decision-making processes for imminent activation, including mobilization of resources and personnel.

Activate: Refers to implementation of the specified pandemic mitigation measures.

The speed of transmission may drive the amount of time decision-makers are allotted in each mode, as does the amount of time it takes to fully implement the intervention once a decision is made to activate. These triggers for implementation of NPIs will be most useful early in a pandemic and are summarized in Table 2.

Table 2: Triggers for Implementation of Mitigation Strategy by Pandemic Severity Index and WHO/U.S. Stages

Pandemic Severity Index	WHO Phase 6, U.S. Government Stage 3	WHO Phase 6, U.S. Government Stage 4 & First Human Case in U.S.	WHO Phase 6, U.S. Government Stage 5 & First Laboratory Confirmed Cluster in U.S. State or Region
1	Alert	Standby	Activate
2 and 3	Alert	Standby	Activate
4 and 5	Standby	Standby/Activate	Activate

The decision to declare the above triggers will be made through guidance from CDC and reporting of laboratory confirmed pandemic influenza in Arizona or the surrounding regions by the Laboratory Response Network and State Public Health Laboratories. For the most severe pandemics (Categories 4 and 5), *Alert* is implemented during WHO Phase5/U.S. Government Stage 2 (confirmed human outbreak overseas), and *standby* is initiated during WHO Phase 6/U.S. Government Stage 3 (widespread human outbreak in multiple locations overseas). *Standby* is maintained through Stage 4 (first human case in North America), with the exception of the State or region in which a laboratory confirmed human pandemic influenza case cluster with evidence of

community transmission is identified. The recommendation for that State to *activate* the appropriate NPIs is defined in Table 3 when identification of a cluster and community transmission is made. Other States or regions *activate* appropriate interventions when they identify laboratory confirmed human pandemic influenza case clusters with evidence of community transmission in their jurisdictions.

Determining the likely time frames for progression through *Alert, Standby,* and *Activate* postures is difficult. Predicting this progression would involve knowing the speed at which the pandemic is progressing and the segments of the population most likely to have severe illness. Therefore, from a pre-pandemic planning perspective and given the potential for exponential spread of pandemic disease, it is prudent to plan for a process of rapid implementation of the recommended measures.

5.0 Use of Nonpharmaceutical Interventions

Planning for use of these nonpharmaceutical interventions is based on the Pandemic Severity Index, which may allow more appropriate matching of the interventions to the magnitude of the pandemic. These recommendations are summarized in Table 3. All interventions should be combined with infection control practices, such as good hand hygiene and cough etiquette. In addition, the use of personal protective equipment, such as surgical masks or respirators, may be appropriate in some cases and guidance on community face mask and respirator use will be forthcoming from CDC or ADHS.

For Category 4 or Category 5 pandemics, a planning recommendation is made for use of all listed NPIs. In addition, planning for dismissal of students from schools and school-based activities and closure of childcare programs, in combination with means to reduce out-of-school social contacts and community mixing of these children, should encompass up to 12 weeks of intervention in the most severe scenarios. This approach to pre-pandemic planning will provide a baseline of readiness for community response even if the actual response is shorter. Recommendations for use of these measures for pandemics of lesser severity may include a subset of these same interventions and, possibly, suggestions that they be used for shorter durations, as in the case of the social distancing measures for children.

For Category 2 or Category 3 pandemics, planning for voluntary isolation of ill persons is recommended whereas other measures (voluntary quarantine of household contacts, social distancing measures for children and adults) are to be implemented only if local decision-makers have determined that characteristics of the pandemic in their community warrant these additional mitigation measures. However, within these categories, pre-pandemic planning for social distancing measures for children should be undertaken with a focus on a duration of 4 weeks or less, distinct from the longer timeframe recommended for pandemics with greater Pandemic Severity Index. For Category 1 pandemics, only voluntary isolation of ill persons is recommended on a community-wide basis, however the Arizona Department of Health Services may still choose to tailor a response to Category 1-3 pandemics differently by applying NPIs on the basis of local epidemiological parameters, risk assessment, availability of countermeasures, and consideration of local healthcare surge capacity in the State. Thus, from a pre-pandemic planning perspective for both assessing local and public health capacity and healthcare surge, delivering countermeasures, and implementing these measures in full and in combination will be assessed as a pandemic unfolds.

Table 3: Summary of the Arizona Community Mitigation Strategy by Pandemic Severity

Interventions by Setting	Pandemic Severity Index		
	1	2 & 3	4 & 5
Home: Voluntary isolation of ill at home (adults and children); combined with the use of antiviral treatments as available and indicated	Recommend	Recommend	Recommend
Home: Voluntary quarantine of household members in homes with ill persons (adults & children); consider combining with antiviral prophylaxis if effective, feasible, and quantities sufficient	Generally not recommended	Consider	Recommend
School: Child social distancing			
• dismissal of students from schools and school based activities and closure of child care programs	Generally not recommended	Consider: ≤ 4 weeks	Recommend: ≤ 12 weeks
• reduce of-of-school social contacts and community mixing	Generally not recommended	Consider: ≤ 4 weeks	Recommend: ≤ 12 weeks
Workplace/Community: Adult Social Distancing			
• decrease number of social contacts (e.g., encourage teleconferences, alternatives to face-to-face meetings)	Generally not recommended	Consider	Recommend
• increase distance between persons (e.g., reduce density in public transit, workplace)	Generally not recommended	Consider	Recommend
• modify, postpone, or cancel selected public gatherings to promote social distance (e.g., postpone indoor stadium events, theater performances)	Generally not recommended	Consider	Recommend
• modify work place schedules and practices (e.g., tele-work, stagger shifts)	Generally not recommended	Consider	Recommend

5.1 Voluntary Isolation and Treatment of Ill Persons

The goal of this intervention is to reduce transmission by reducing contact between persons who are ill and those who are not. Ill individuals not requiring hospitalization are requested to remain at home voluntarily for the infectious period, approximately 7-10 days after symptom onset. This would usually be in their homes, but could be in a home of a friend or relative. Voluntary isolation of ill children and adults at home is predicated on the assumption that many ill individuals who are not critically ill can, and will need to be cared for in the home. In addition, this intervention may be combined with the use of influenza antiviral medications for treatment (as appropriate), as long as such medications are effective and sufficient in quantity and that feasible plans and protocols for distribution are in place.

Requirements for success include prompt recognition of illness, appropriate use of hygiene and infection control practices in the home setting (specific guidance is forthcoming and will be available on www.pandemicflu.gov); measures to promote voluntary compliance (e.g., timely and effective risk communications); commitment of employers to support the recommendation that ill

employees stay at home; and support for the financial, social, physical, and mental health needs of patients and caregivers. In addition, ill individuals and their household members need clear, concise information about how to care for an ill individual in the home and when and where to seek medical care. Special consideration should be made for persons who live alone, as many of these individuals may be unable to care for themselves if ill.

Flu symptoms can be mild or severe. It is important to note that mild symptoms can become severe without much notice. Not all of the listed symptoms need to be experienced to have the flu. The common symptoms of the flu include:

- Fever (usually high)
- Headache
- Muscle aches
- Runny nose may also occur but is more common in children than adults
- Extreme tiredness
- Dry cough
- Chills
- Stomach symptoms, such as nausea, vomiting, and diarrhea, may also occur but are more common in children than adults

Complications of the flu can include bacterial pneumonia, ear infections, sinus infections, dehydration, and worsening of chronic medical conditions, such as congestive heart failure, asthma, or diabetes.

During a pandemic, it is recommended that the non-acutely ill not go to the hospital except in the case of a medical emergency. Flu related symptoms requiring emergency care include trouble breathing, being confused or incoherent, or a seizure. Hospitals will be overwhelmed with patients during a pandemic and many sick people may have to be cared for at home or at a non-hospital location. Ill individuals may have to rely on old fashioned remedies such as rest and re-hydration as antiviral drugs will be scarce. Consider the following:

- Stay home from work or school, and rest
- Drink plenty of non-caffeinated fluids
- Use acetaminophen or ibuprofen to help with fever and body aches
- Wash hands often to protect other people
- Avoid getting close to other people, especially when coughing or sneezing
- Cover mouth and nose when coughing or sneezing

This information will be widely distributed, in collaboration with Arizona acute care hospitals, to the public through print and electronic media and the modes described in Section 5.6 – Public Health Risk Communication of this plan. The process for making a presumptive/definitive diagnosis will be handled at the local level and will include:

- Case definition for presumptive/definitive diagnosis (fever of at least 101^{o} F along with either cough or sore throat)
- A plan to train local County health department personnel on diagnosis in early and later stages of pandemic.
- Assured stock of test kits for rapid diagnosis.
- Developed agreements with laboratories for rapid diagnostic testing 24/7.
- Developed and planned distribution of educational materials for patients (fact sheets about pandemic influenza, including signs and symptoms, self care, and infection control).

- Plan for notifying businesses that ill persons should not go to work until no longer infectious.

A specific clinical case definition for pandemic influenza will be developed when more is known about the circulating pandemic flu virus (any unique symptoms or epidemiological links such as geographic or contact with chickens, etc.). In the meantime, the CDC clinical and epidemiological guidance factors regarding testing for suspect avian influenza will be taken into consideration (see http://www2a.cdc.gov/han/ArchiveSys/ViewMsgV.asp?AlertNum=00246).

Treatment of people with presumptive or definite pandemic influenza will be managed at the local level. To enhance this capability, local County health departments will:

- Train secondary screeners for remote triage (severity of illness, ability to care for at home).
- Identify community facilities and staffing for ill person who cannot be hospitalized or cared at home.
- Engage community-based home health care resources for care of vulnerable homebound ill persons.
- Distribute educational materials to guide:
    1. Care of sick persons at home
    2. Infection control
    3. When to call hotline (see Section 5.6)
- Identify methods to stockpile and distribute medications (symptomatic treatment antivirals) to homebound.
- Routinely monitor ill persons outside hospitals.
- Share information regarding ill persons between employers, hospitals, and clinical facilities.
- Coordinate subsistence (food, shelter, utilities) for patients with inadequate resources.
- Coordinate community EMS and 911 services and establishing protocols and algorithms.

Once the ADHS Antiviral Distribution Plan is activated, antiviral drugs from public stockpiles will be distributed to pre-determined priority groups for diagnosed cases of influenza only. Mass vaccination strategies during a pandemic also rely on priority groups and can only be instituted as vaccine supplies are made available.

Home isolation of patients may occur as hospital resources become scarce or it is in the best interest of the patient to be cared for at home. Arizona Revised Statutes (ARS) § 36-788(C) describes the role of the State and local health department for home isolation and/or quarantine. “The department, a County health department or a public health services district shall ensure, to the extent possible, that the premises in which a person is isolated or quarantined is maintained in a safe and hygienic manner and is designed to minimize the likelihood of further transmission of disease or other harm to a person subject to isolation or quarantine. Adequate food, clothing, medication and other necessities, competent medical care and means of communicating with those inside and outside these settings shall be made available.”

During a declared state of emergency, ADHS will coordinate with the Arizona Division of Emergency Management (ADEM) and statewide volunteer agencies and organizations to provide services and resources to those isolated or quarantined at home or another location. Local health

departments are encouraged to coordinate with local emergency management and community non-profit and volunteer agencies.

The Citizen Corps Council has partnered with the "Ready Campaign" and many of the County Health Volunteer Coordinators have partnered with CERT Programs in their counties to incorporate those citizen volunteers in their pandemic and mass care plans. Arizona now has eight Medical Reserve Corps Units; six of the eight were developed in partnership with their County health department to provide trained medical volunteers to assist in medical emergencies and disasters such as a pandemic. Additionally, Maricopa and Pima County schools have volunteered to serve as points of distribution (POD) for mass prophylaxis and have partnered with local CERT Programs to provide necessary volunteers to run their PODs . The State Citizen Corps Council has developed a Deployment Typing Matrix for Citizen Corps Programs; the typing matrix provides a qualification matrix for emergency managers to utilize when requesting deployable trained volunteers. Finally, all statewide Citizen Corps Councils are NIMS compliant and the courses are being offered as continuing education to all Citizen Corps Programs.

5.1.2 Isolation of Incoming Ill Travelers

As with community containment, travel-related containment if often best addressed at the local level, although many situations may involve ADHS and the federal government, due to federal ports of entry and quarantine authority for international travel laws. Affected County and tribal health departments are encouraged to work with ADHS while preparing for and enacting containment measures to address travel-related risk (Refer to Arizona Influenza Pandemic Response Plan, Supplement 9: Travel-Related Risk of Disease Transmission).

Systems to identify airport/travel associated import of influenza-like illness have been explored at the Phoenix Sky Harbor International Airport. MedAire, Sky Harbor Airport Administration, and Phoenix Fire Department (PFD) Administration, in conjunction with ADHS and the Maricopa County Department of Public Health (MCDPH) have the aim to integrate response plans for the event of an inbound aircraft with a passenger that is suspected of having an infectious disease. A high priority has been placed on separating (isolating) the sick from the non sick, deplaning the potentially exposed, and not keeping an aircraft on the tarmac. The initial response to such an event will involve the Airport Authority, the Phoenix Fire Department, the Phoenix Police Department and the involved airline. Gates C and D of Terminal 2 at Sky Harbor have been identified as locations where passengers can be disembarked and remain isolated from the rest of the airport. An Airport Response Plan, Isolation Drill & Drill Debrief, PFD plan for tracking asymptomatic individuals, and a draft MCDPH Response Plan have been established.

CDC announced (at Pandemic flu summit meeting) their intent to address federal-level airport issues such as MedAire in-flight consultations. Further efforts in regards to MedAire will be based on federal initiation in the future.

Arizona shares an international border with Mexico. The Mexican Epidemiological and Health Intelligence Unit's (UIES) function at the international border points of entry (POEs) is to meet with authorities at each of the POEs recognized by the State and revise emergency procedures jointly with Mexican customs authorities. A central operation center will be established at the State-recognized POEs, and a list of personnel responsible for covering all scheduled land border

crossing shifts will be presented. A request will be made for a room for isolation and an area designated for land transportation. UIES will visually inspect vehicle passengers and transportation vehicle passengers, and assess travelers by asking health-related questions and respond accordingly.

5.2 Voluntary Quarantine of Household Members of Ill Persons

The goal of this intervention is to reduce community transmission from members of households in which there is a person ill with pandemic influenza. Members of households in which there is an ill person may be at increased risk of becoming infected with a pandemic influenza virus. Members of households with ill persons may be recommended to stay home for an incubation period 7 days (voluntary quarantine) following the time of symptom onset in the household member. If other members become ill during this period, the recommendation is to extend the time of voluntary home quarantine for another incubation period, 7 days from the time that the last family member becomes ill.

Since those who are requested to be quarantined at home have not yet contracted influenza, it may be difficult to enforce this measure as they are likely to still feel well enough to carry on regular activities. However, persons quarantined at home may quickly transition from the role of a caretaker to an influenza case. The Arizona Revised Statute (ARS) §36-788 B(2) mentions that during a Governor declared state of emergency or state or war emergency, the Department or local health authority may "Require isolation or quarantine of any person by the least restrictive means necessary to protect the public health." In addition, "The department or local health authority shall use all reasonable means to prevent the transmission of disease among the isolated or quarantined persons."

Requirements for success of this intervention include the prompt and accurate identification of an ill person in the household, voluntary compliance with quarantine by household members, commitment of employers to support the recommendation that employees living in a household with an ill individual stay home, the ability to provide needed support to households that are under voluntary quarantine, and guidance for infection control in the home. Additionally, adherence to ethical principals in the use of quarantine during pandemics must be considered.

Local County health departments will be responsible for developing and executing methods to identify household contacts and these methods shall be detailed in the individual local County health department community containment plans. Methods shall include at a minimum:

- Interview forms with demographic characteristics of household members (both ill and contacts).
- A plan for routine monitoring of households including contacts.
- Educational materials for contacts (symptoms, reporting of new illnesses to local County health department or hotline, how to care for a sick person at home, infection control).
- A plan to coordinate subsistence (food, shelter, utilities) for households with inadequate resources while in quarantine.

ADHS has a data collection form for cases, but nothing that is specifically designed for quarantine purposes. For quarantined patients, the State will utilize an ATSDR form, which captures basic demographics and can have questions added to be tailored to the situation. There is already a

database designed by the CDC, where the State can enter all of the information quickly in order to do analysis and data management.

5.2.1 Identifying Vulnerable Populations

Through pre-event advertising and risk communication methods, vulnerable populations will be encouraged to register with local health and emergency management departments. The Arizona Department of Health Services has recommended the use of the Centers for Disease Control and Prevention Public Health Workbook to Define, Locate and Reach Special, Vulnerable and At-Risk Populations in an Emergency (located at http://www.bt.cdc.gov/workbook/)for County health departments to develop plans for risk communication support and outreach to vulnerable populations in their community.

All 15 Arizona County public health departments are currently charged within the FY 2007-2008 scope of work to:

1. Identify community partners involved with special needs populations and develop a County/regional planning committee to address special needs populations in collaboration with public health partners including local emergency management and homeland security agencies.
2. Identify local/regional resources to meet special population needs.
3. Identify 2 or 3 high priority special needs populations based on local data and develop a pre-event, event and post-event communication plan and
4. Include components of special needs communication plans in at least one response exercise.

As of April 2008, all Counties are involved in at least one working group to identify avenues with which to employ risk communication measures for special needs populations within their community. In Addition, 60% of Arizona County Public health departments have submitted draft risk communication plans for vulnerable populations in their communities to the Arizona Department of Health Services. For example, Greenlee and Graham Counties have worked with their Area Agency on Aging contacts and have provided hands-on workshops for the elderly in the community to develop their own personal preparedness plans.

As indicated previously, County public health departments are tasked with prioritizing at least three special populations within their communities with which to initiate planning: The following populations are not listed in the order of priority, but rather in order of those most frequently mentioned as being targeted among the 15 counties.

- Non-English speaking
- Disabled/Impaired Mobility
- Elderly
- Homeless
- Rural/Geographically Isolated/Homebound
- Sensory and Cognitive Impairment
- Children/Under 18

The Arizona Department of Economic Security Division of Aging and Adult Services, in conjunction with all of the State's Area Agencies on Aging and the ADHS Bureau of Emergency Preparedness and Response, have discussed components of a successful emergency response plan, as well as initiatives of the local public health departments in providing outreach to elderly populations. The Area Agencies on Aging were encouraged to work alongside their County

emergency management departments, as well as County public health, in providing 24-hour emergency contact information for their Non-governmental Organizations (NGO), identifying their client base and addressing their contractual obligations in providing emergency services such as evacuation transportation or support while sheltering in place

The State has advised local health departments to conduct outreach to community and faith-based organizations to develop plans that will be coordinated with those organizations for meeting the needs of vulnerable households who may be quarantined during a pandemic.

County public health workgroups currently developing risk communication plans and addressing other issues related to pandemic influenza in their community can also begin to develop plans to coordinate with service provider agencies to assist those who may be quarantined during an influenza pandemic.

The 2005 ADHS Demographics and Effective Risk Communication Research Report, located at http://www.azdhs.gov/phs/edc/edrp/es/pdf/adhsspecialpopstudy.pdf, provides a framework for the County public health departments to begin designing their own risk communication plans for their unique circumstances and residents within their community. At a State level, the Arizona Department of Health Services routinely sends out various Health Alerts to its public health stakeholders and is also accustomed to addressing the health and medical needs of those considered to be at-risk for varying reasons. County public health departments also have the capability of sending out Health Alerts to their partners. Local planning involves interaction with NGOs who provide services to at-risk populations and sharing of contact information to utilize during a public health emergency.

5.2.2 Quarantine of Incoming Ill Travelers

Federal, State and International Authority

In general, HHS defers to State, Tribal and local health authorities in the primary use of their separate quarantine powers. Based on long experience and collaborative working relationships with our State, local, and Tribal partners, CDC anticipates that the need to use this federal authority to quarantine a person will occur only in rare situations, such as in events at ports of entry or other time-sensitive settings. This authority will be used only if a person poses a threat to public health and refused to cooperate voluntarily.

In the event of an infectious disease outbreak along the international border region, Isolation and Quarantine (I & Q) measures may need to be implemented in an attempt to control and limit the number of exposures and infected persons. Isolation applies to persons who are known to have an illness, and quarantine applies to those who have been exposed to an illness but who may or may not become ill. Federal, State, local, and Tribal agencies need to work collaboratively with Mexican counterparts due to the daily large number of border crossers. Currently in the U.S., State and local governments have the primary authority to control the spread of dangerous diseases within their jurisdictions, with the Federal government’s role limited to interstate and foreign quarantine.

International Consideration

Consular Affairs-The U.S. Department of State Foreign Affairs Manual, Volume 7 – Consular Affairs, 7 FAM 359 Consular Affairs Notification and Access in Cases of Quarantinable Communicable Diseases. (CT:CON-120; 12-06-2005) refers to the following:

> Consular Notification: The Vienna Convention on Consular Relations (VCCR) obligates parties to the Convention to advise foreign nationals held in either quarantine or isolation for health reasons of their right to have a consular office notified of their detention if they so request. Specifically, subparagraph (b), paragraph one, Article 36 requires host countries to apprise a foreign national of his/her right to have a consular officer notified "without delay" if the person is "arrested or committed to prison or to custody pending trial or is detained in any other manner." Individuals who are quarantined or isolated and thus deprived of their freedom of movement are, in the Department's view, "detained" within the meaning of Article 36 of the VCCR, (see 7 FAM 310 and 7 FAM 363.2).

United States Federal Level-Secretary of the Department of Health and Human Services, Centers for Disease Control and Prevention-Title 42 United States Code Section 264 (Section 361 of the Public Health Service [PHS] Act) gives the Secretary of the Department of Health and Human Services (HHS) responsibility for preventing the introduction, transmission, and spread of communicable diseases from foreign countries into the United States and within the United States and its territories/possessions. This statute is implemented through regulations found at 42 CFR Parts 70 and 71. Under its delegated authority, CDC, through the Division of Global Migration and Quarantine, is empowered to detain, medically examine, or conditionally release persons suspected of carrying a communicable disease.

Arizona – State Level

Pursuant to ARS §36-788. Isolation and quarantine during a state of emergency or state of war emergency

A. During a state of emergency or state of war emergency as declared pursuant to § 36-787, the department or local health authority must initiate an investigation if that agency has reasonable cause to believe that a highly contagious and fatal disease exists within its jurisdiction. Subject to the provisions of this article, persons who have contracted the disease or who have been exposed to the disease may be subject to isolation and quarantine if the director determines that quarantine is the least restrictive means by which the public can be protected from transmission of the disease, due to the nature of the disease and available preventive measures, or refusal by an individual to accept less restrictive measures to prevent disease transmission. Diseases for which isolation and quarantine may be ordered do not include acquired immune deficiency syndrome or other infection caused by the human immunodeficiency virus.
B. The department or local health authority may, during the state of emergency or state of war emergency declared by the governor, do the following:
    1. Establish and maintain places of isolation and quarantine, which may include the residence of the person quarantined.

2. Require isolation or quarantine of any person by the least restrictive means necessary to protect the public health. The department or local health authority shall use all reasonable means to prevent the transmission of disease among the isolated or quarantined persons.

C. The department, a County health department or a public health services district shall ensure, to the extent possible, that the premises in which a person is isolated or quarantined is maintained in a safe and hygienic manner and is designed to minimize the likelihood of further transmission of disease or other harm to a person subject to isolation or quarantine. Adequate food, clothing, medication and other necessities, competent medical care and means of communicating with those in and outside these settings shall be made available.
D. A person subject to isolation or quarantine shall comply with the department's or local health authority's rules and orders, shall not go beyond the isolation or quarantine premises and shall not come in contact with any person not subject to isolation or quarantine other than a physician or other health care provider, department or local health authority or person authorized to enter an isolation or quarantine premises by the department or local health authority.
E. Other than a person authorized by the department or local health authority, a person shall not enter an isolation or quarantine premises. If, by reason of an unauthorized entry into an isolation or quarantine premises, the person poses a danger to public health, the department, or local health authority may place the person in isolation or quarantine pursuant to this section or section 36-789.
F. The department or local health authority must terminate isolation or quarantine of a person if it determines that the isolation or quarantine is no longer necessary to protect the public health.

Arizona – Local Level

When a County health department or public health services district is apprised that infectious or contagious disease exists within its jurisdiction, it shall immediately perform an investigation. If the investigation discloses that the disease does exist, the County health department of public health service district may adopt quarantine and sanitary measure consistent with department (ADHS) rules and ARS sections 36-788 and 36-789 to prevent the spread of the disease. The County health department or public health service district shall immediately notify the department of health services of the existence and nature of the disease and measures taken concerning it.

Sonora – State and Local Level

Measures to reduce risk of disease transmission of infected persons will be enforced. These measures correspond to interventions of isolation and quarantine: Closures of schools, theaters, cinemas, bars, and stadiums; do not attend social events; avoid direct contact with persons that are ill; public health response teams will wear personal protective equipment (PPE), such as masks, special suits, gloves and eye protection.

Measure to reduce the risk of disease transmission of contacts includes: Medical attention for contacts; self-care and self-monitoring (take temperature); visit a physician if a contact presents with symptoms; voluntary quarantine (home self-confinement) of healthy contacts; recommendations to contacts to reduce social interaction and avoid travel to non-infected areas.

Measures to increase social distancing include: Voluntary confinement of symptomatic persons; school closures at all education levels; and measures to reduce contacts with adults.

5.3 Child Social Distancing

Dismissal of Schools and Closure of Childcare Programs

The goal of these interventions is to protect children and to decrease transmission among children in dense classroom and non-school settings and, thus, to decrease introduction into households and the community at large. Social distancing interventions for children include dismissal of students from classrooms and closure of childcare programs, coupled with protecting children and teenagers through social distancing in the community to achieve reductions of out-of-school social contacts and community mixing. However, it is acknowledged that maintaining the strict confinement of children during a pandemic would raise significant problems for many families and may cause psychosocial stress to children and adolescents. These considerations must be weighed against the severity of a given pandemic to the community at large and to children in particular.

If a recommendation for social distancing of children is advised and families must group children together for pragmatic reasons, it is recommended that group sizes be held to a minimum and that mixing between such groups be minimized as much as possible.

Decision Making Process

The decision to close schools to limit transmission of a pandemic influenza will be coordinated with the local County health departments and the school district governing board, with input and guidance from the State. Arizona Revised Statute (ARS) § 15-341 (A) (34) requires each individual school site to have an emergency response plan that meets minimum State requirements for closure. The Arizona Department of Education (ADE) and the Arizona Division of Emergency Management (ADEM) are responsible for developing the minimum standards for school emergency response plans in Arizona. Schools must collaborate with their local law enforcement, fire, emergency management and public health agencies to develop their plans.

An Emergency Response Plan (ERP) Advisory Council is being formed to develop further guidance for schools and to provide additional input in Arizona State planning. The council consists of the following representatives:

- District and charter administrators with responsibility for ERP development representing urban and rural locations
- District and charter business managers representing urban and rural locations
- Arizona Department of Health Services(ADHS) representative
- ADE representative
- Representatives from other agencies as the agenda warrants

The Arizona School ERP Advisory Council will also develop guidance for schools on the planning of continuation of social services. Support for schools in developing plans for continuation of education and social services will be provided by several offices within the ADE, including Health and Nutrition (school meals), Educational Technology (distance learning), Exceptional Student Services (behavioral health services). The decision to provide for the continuation of social

services provided at the discretion of the school is also within the authority of the governing boards. Factors that will contribute to these decisions include: school capacity (such as technology), student absenteeism rate, teacher absenteeism rate, administrative absenteeism, continuation of funding through the ADE, continuation of funding through other sources (such as the federal government) and the priority given to the continuation of these services.

The Arizona Department of Education has also produced an emergency response plan template that includes an appendix on pandemic planning. Activities within this appendix are listed according to the World Health Organization's (WHO) pandemic phases. Under Phase 6, in addition to curtailing non-essential services and providing backup means of continuing the education process is the statement, "In coordination with the County health department, determine if schools should be closed." Local County health departments will coordinate and collaborate with the education sector on continuity of education and related activities during a pandemic.

Requirements for success of these interventions include consistent implementation among all schools in a region being affected, community and parental commitment to keeping children from congregating out of school, alternative options for the education and social interaction of the children, clear legal authorities for decisions to dismiss students from classes and identification of the decision-makers, and support for parents and adolescents who need to stay home from work. Interim strategies include:

1. Category 1: No dismissal of students from schools or closure of childcare facilities.
2. Category 2 or 3: Short-term (up to 4 weeks) cancellation of classes and closure of childcare facilities.
3. Category 4 or 5: Prolonged (up to 12 weeks) dismissal of students and closure of childcare facilities.

Guidance for deciding when to close schools is most beneficial in a Category 2 or 3 situation, as it is expected that schools will not be open for business during a Category 4 or 5 pandemic due to lack of student and staff demand. ADHS is currently working directly with the ADE School Safety and Prevention Director in drafting such guidance. Draft policies, procedures, letters to parents, and media communications have been developed and should be finalized prior to the end of the 2007-2008 school year.

The responsibility to alert parents and other stakeholders of school closure lies with the individual district and charter holder governing boards. The Arizona School Emergency Response Plan Advisory Council will develop guidance for schools on policy and action steps regarding stakeholder notification prior to and during an influenza pandemic. Childcare facilities should look to the local district school governing board for guidance. The plan will include utilization of the Arizona 2-1-1 website for emergency preparedness.

Public health information and resource sharing takes place between the Department and the Arizona Department of Education and this exchange would be escalated during an influenza pandemic with the goal of maintaining a unified message. Technical assistance would occur from both of these State departments to the local health departments and schools regarding school closure.

In the situation of a pandemic influenza, school personnel are not exempt from following mandatory reporting laws, in particular the reporting of suspected child abuse or neglect to law enforcement or the Arizona Department of Economic Security/Child Protective Services. Any suspected abuse or neglect must still be followed up on as per ARS 13-3620. The Arizona Department of Economic Security and ADE will continue to work in partnership with each other and law enforcement to ensure the safety of students in the event of school closure.

ADHS has also developed The Flu Education Toolkit which has a selection of posters, flyers, brochures and tips to educate people about preventing the spread of the flu available through the website http://www.azdhs.gov/flu/flu_toolkit.htm. The Toolkit prevention materials are designed specifically for schools, childcare facilities, and parents. Spanish versions are available for most of the materials.

Colleges and Universities

Colleges and universities present unique challenges since student life can include classroom and dormitory density, commuting and adult social interaction. Many parents may want their children who are attending college or university home during a pandemic. Colleges and universities must be prepared for managing and assisting large numbers of students departing school within a short time span. Policies should be explored to identify what students may leave campus and to assist in the travel of such students. Planning must also be considered for those students unable to return home during a pandemic.

Arizona State University (ASU), Arizona's largest public university, has developed a Pandemic Influenza Working Group. The goal of this group is to establish a plan for ASU in the event of a pandemic. The plan will address:

- Criteria for the university to cancel public events and suspend classes to send students home to a less-risky environment before the cancellation of public transportation.
- Influenza medical care for students and the university community.
- Housing and food service for students that are ill or well on all ASU campuses who are unable to go home.
- Essential university functions and personnel that would be called upon to provide health care, security, housing and food service, maintain integrity of research and university infrastructure.

The Pandemic Influenza Working Group also monitors local, national and international health organizations' updates on the H5N1 virus to keep university leadership and the community informed of any changes in flu outbreaks across the globe and developments in treatment. Additionally, the group has purchased supplies, including masks, medication and vaccinations to treat the university community.

5.4 Workplace/Community: Adult Social Distancing

Social distancing measures for adults include provisions for both workplaces and the community and may play an important role in slowing or limiting community transmission. The goals of workplace measures are to reduce transmission within the workplace and thus into the community at large, to ensure a safe working environment and promote confidence in the workplace, and to

maintain business continuity, especially for critical infrastructure. Workplace measures such as encouragement of tele-work and other alternatives to in-person meetings may be important in reducing social contacts and the accompanying increased risk of transmission. Similarly, modifications to work schedules, such as staggered shifts, may also reduce transmission risk.

Within the community, the goals of these interventions are to reduce community transmission and thus slow or limit transmission. Cancellation or postponement of large gatherings, such as concerts or theater showings, may reduce transmission risk. Modifications to mass transit policies to decrease passenger density may also reduce transmission risk, but such changes may require running additional buses, which may be challenging due to transit employee absenteeism, equipment availability, and the transit authority's financial ability to operate nearly empty cars or buses.

Development of Business Continuity of Operations Plans (COOP) is taking place among various businesses with the intent of identifying essential services and establishing plans to continue operations in the event of an emergency such as an influenza pandemic. Recommendations and public health information coordinated among the State and local health departments may affect or introduce the possibility of closure of businesses or potential limiting of services. Current business planning objectives should include redefining human resource policies such as telecommuting, absenteeism and family sick leave in the event of an influenza pandemic. Extra attention to hygiene etiquette and education about influenza transmission should be ongoing, as should guidance on identifying illness in employees and encouraging those employees to self-isolate or self-quarantine if they suspect exposure. The ADHS Flu Education Toolkit for the Workplace (http://azdhs.gov/flu/flu_toolkit_workplace.htm) provides tips to employers for keeping the workplace "flu-free" and hopefully the result would be a reduced number of employee sick days. These materials are designed especially for the workplace and include general public education materials for posting.

Technical support from the State and local health departments and insurance carriers can help establish on-site influenza vaccine clinics at large employers to offset transmission of regular influenza viruses. Absenteeism of ill employees or those caring for ill family members may result in similar consequences as a temporary closure of a business. Despite the potential for a reduced workforce, most businesses cannot afford to place their operations on-hold and the degree of effects upon society are unknown.

If a pandemic is declared, the Arizona Department of Commerce (Commerce) would coordinate with the Local Workforce Investment Board (LWIB) directors/managers to establish local business priorities, identify local business workforce needs, and provide outreach and support to local business in their areas using the local One Stop centers. Commerce would contact and coordinate with the career placement offices of the three State universities to identify a pool of skilled or semi-skilled workers within their respective student bodies who could fill the requirements of targeted local businesses as members of a temporary workforce. Utilizing an e-mail database, businesses could be notified directly of the services/facilitation that Commerce could provide to them; this same methodology could be used to query businesses as to what assistance they need to allow them to provide for continuity in their business operations. By establishing contact with their community and economic development partners statewide, Commerce could also facilitate the

development of a statewide business needs assessment. In addition, Commerce could assist in arranging regional consortium grants to assist small businesses in meeting the training needs for new employees.

Arizona will comply with federal guidelines regarding FMLA laws relative to workers impacted by a pandemic. However, private-sector workers who may lose jobs or be unable to work because they themselves are ill or must stay home to care for ill family members can be assisted through multiple programs that the Arizona Department of Economic Security (DES) administers. The DES Workforce Investment Act (WIA) Section provides the administrative functions for the delivery of WIA workforce services provided by the 14 Local Workforce Investment Areas (LWIAs), including the 19 Tribal Nations in the State. These agencies and entities provide a menu of services to eligible participants. The DES/WIA role, if a pandemic flu should occur, would be to coordinate the delivery of services with the LWIAs.

Examples of the services that could be made available by DES/WIA include support services (such as transportation, housing, utility assistance, child care, or dependent care costs), occupational training, basic skills training for completion of high school diplomas or GEDs, development of an individualized service plan, on-the-job or customized training, work experience assignments, assistance securing another job, and assessment to determine skill levels. These services are available to youth aged 14–21, to adults aged 18 and above, and would be available to private-sector workers impacted by a pandemic.

Local County health departments will have established interdisciplinary relationships with and between community leaders including not-for-profits, employers, and faith-based groups to assist workplace and community social distancing components and activities. This will include development and distribution of informational materials for the workplace and community and guidance to communicate to local employers on distancing persons at the worksite.

Reduced Public Transport

Although not all Arizona counties have public transportation systems, those that do may consider the possibility of recommending the reduction of public transport services. However, such a measure would have severe consequences for those who depend upon the systems for commutes and other appointments. For example, Valley Metro, the public bus provider in Phoenix, Arizona had over 54,000,000 boardings in FY 2004-2005 and Sun Tran, the public bus provider in Tucson, provides transportation to approximately 57,000 riders on the average weekday.

Guidance for the limitation of airline transportation would stem from disease surveillance information. As part of the pandemic influenza phase II projects, the Arizona Department of Health Services (ADHS) in conjunction with the Maricopa County Department of Public Health (MCDPH) is working toward information sharing agreements with Med-Air, an in-flight medical consultation service based in Tempe, Arizona. In addition, there is the potential for ADHS to receive information about absenteeism among Phoenix Sky Harbor Airport employees that could be used during enhanced disease surveillance.

Cancellation of Mass Gatherings

Local County health departments will be responsible for developing and executing methods to cancel large public gathering and will incorporate these processes in their operational plans. They shall develop interdisciplinary relationships with partners that will be involved in canceling large building gatherings including, but not limited to, venue management, local government leaders and law enforcements.

Recommendations from the local County health departments might include the cancellation of recreational or optional mass gatherings to limit influenza transmission. Any income generating gatherings such as fairs, concerts and special events will be severely affected. However in more rural areas, it is possible that some of these same venues may become sites for mass vaccination or mass prophylaxis and take precedence over previously scheduled events.

Requirements for success of these measures include the commitment of employers to provide options and make changes in work environments to reduce contacts while maintaining operations; whereas, within communities, the support of political and business leaders as well as public support is critical.

ADHS has provided local health departments access to the Flu Education Toolkit for Local Health Departments (located at http://www.azdhs.gov/flu/flu_toolkit_localhealthdept.htm). As public health professionals, they have been made aware of how important it is to prevent and control the spread of the flu. The materials in this Toolkit are comprised of the information for all target groups: healthcare, schools and the workplace. These materials are available in a variety of formats and most are in Spanish.

The Arizona Department of Administration (ADOA) Human Resources Division is a support function to all State agencies. They provide assistance to all State agencies during a pandemic that will allow continuity of operations from a human resources perspective by informing agencies and employees about existing personnel rules and policies and how these rules and policies come into play during a pandemic. Additionally, the Human Resources Division is prepared to delegate authority when needed and is researching additional policies that will mitigate the human resources constraints realized during an influenza pandemic. Personnel rules and polices are being reviewed and possibly modified to provide the ADOA Director authority to implement temporary procedures to afford greater flexibility during a declared state of emergency. Private businesses are encouraged to use these policies as a model for their own planning.

5.5 Public Education on Measures Such as Hand/Respiratory Hygiene

The Arizona Department of Health Services (ADHS) has a wide variety of public education materials that can be downloaded from the Department's website located at http://www.azdhs.gov/flu/flu_toolkit.htm. The Flu Education Toolkit contains easily downloadable items in English and Spanish such as bookmarks, posters, information sheets and brochures for children, teachers, healthcare, hospitals, long-term care and assisted living agencies and the workplace. Local health departments can develop education initiatives utilizing these tools as well as their own materials and conduct outreach in their respective communities. Encouraging schools, other government agencies and businesses to create and shape their own communication strategies

adds depth to the number of people that are well informed on the basics of preventing transmission of influenza to themselves and others. Hand/respiratory hygiene and cough etiquette includes:

- Cover the nose/mouth when coughing or sneezing;
- Use tissues to contain respiratory secretions and dispose of them in the nearest waste receptacle after use;
- Perform hand hygiene (e.g., hand washing with non-antimicrobial soap and water, alcohol-based hand rub, or antiseptic handwash) after having contact with respiratory secretions and contaminated objects/materials.

5.6 Public Health Risk Communication

Effective public health risk communication is necessary to inform the public not only of the specific interventions being implemented (e.g. which schools/businesses/events are closed) but the rationale behind these measures. Please see Supplement 10, *Public Health Communications,* and Supplement 12, *Influenza Pandemic Information Management*, of the Arizona Influenza Pandemic Response Plan located at http://www.azdhs.gov/pandemicflu/pandemic_flu_plan.htm for public health communication processes, systems and networks that are available for use during an influenza pandemic. The current State spokespersons for providing messages to local health departments, the public, and the media to initiate community mitigation interventions are the Arizona Department of Health Services Public Information Officer (PIO) Director, followed by the Arizona Department of Health Services Emergency Preparedness and Response Bureau Chief.

Arizona State Government works collaboratively with Federal, Tribal, County and City entities. Formal coordination of media groups includes the Arizona PIO Task Force and Media Focus Groups. As a result of these groups, Arizona is prepared with a tangible robust suite of plans to effectively and efficiently respond to a wide variety of emergency situations, including pandemic influenza.

The Arizona PIO Task Force identifies ways to expedite information to the public while working to coordinate media functions with stakeholders statewide. Arizona launched a statewide campaign to inform people of what they need to do to be prepared for them; to be prepared for their families; and to be prepared for their communities. After recent public health emergencies (most notably the hurricanes in the Gulf of Mexico), Arizona recognized that the majority of the public is simply not prepared to handle emergencies that would require them to take action immediately.

“Just in case Arizona” is a statewide emergency preparedness campaign sponsored by the Arizona Department of Health Services. It simplifies the preparedness message by breaking all emergencies down into one of two types; those for which you need to be prepared to stay (or shelter in place), and those for which you need to be prepared to go (or evacuate). A wealth of information, including check lists and family plans, is also available through AZ 2-1-1 Online at www.az211.gov. AZ 2-1-1 Online helps Arizonans find information about local emergencies and health and human services and is the official sources of timely information during natural or man-made emergencies such as pandemic influenza, wildfires, floods, utility outages, and evacuations. The public wants to be prepared, and this campaign will help them get there and keep their families safe.

A public health information line has been established and can be coordinated, scripted and activated by the Arizona Department of Health Services. The bi-lingual, 24/7 menu-driven information line can be accessed throughout Arizona [Metropolitan Phoenix (602) 364-4500 and statewide (800) 314-9243]. In addition, the Arizona Department of Health Services has the capabilities in-place to activate a public health emergency information call center (Metropolitan Phoenix (602) 364-0244 and statewide (866) 894-1594). This center would be activated and utilized to serve as the State's official "hotline" for Arizona citizen to call with question about pandemic influenza and to screen ill persons and their need to seek medical attention. Staff operating the call center will be trained by the Arizona Department of Health Services' Bureau of Emergency Preparedness and Response exercise and training personnel.

In a pandemic event, ADHS has the lead in public information functions. Since numerous other agencies will potentially work in support of the ADHS public information function, a Joint Information Center (JIC) may be established as required by the nature and scale of the event. The JIC will perform the following:

- Provide guidance and procedures for disseminating Emergency Public Information (EPI) in support of the State's response and recovery to an emergency/disaster.
- Provide for the effective collection, monitoring, management and dissemination of accurate, useful and timely information to media outlets during emergencies/disasters.
- Disseminate emergency instructions and protective actions to the public.
- Maintain procedures to disseminate public information and instructions for obtaining disaster assistance.
- Provide procedures to develop and disseminate public information regarding governmental response and recovery operations.
- Coordinate EPI to avoid panic, fear and confusion resulting from rumors and hearsay.
- Provide long-term public education efforts related to hazard awareness, family protection planning and emergency self-help.

Arizona State, Counties and Tribes have developed their own distribution materials and have produced local messages for public broadcast. Examples of these messages and distribution materials can be provided upon request. Currently, some Arizona Counties have distributed pandemic influenza educational materials (brochures) to all households in their jurisdiction. Radio public service announcements have also been recorded and are ready for use. Subject matter includes snow days, hand washing, and cover-your-cough. Educational materials currently available to distribute include:

- Individual and Family – How to be Prepared for a Flu Pandemic Handbooks & Pocket Guides
- Individual and Family - Treating Seasonal or Pandemic Flu at Home Handbooks
- Healthcare Staff – Preparing for Pandemic Flu Handbooks
- Schools –Stop the Germs & Illness Handbooks
- Schools – Clean Hands are Healthy Handbooks
- Tip cards for first responders, clinics, home visitors and shelters regarding vulnerable populations
- Multiple brochures (in English and Spanish) for hand hygiene, avoiding the flu-6 things you can do, keeping clean at school, workplace preparation, what to do if you are sick, the difference between pandemic flu and seasonal flu, grief and recovering from loss

- Stickers for children reminding them to wash, cover cough, etc.
- Handbooks for communicating with patients during urgent care (English & Spanish)

Emergency kits for families and students that have been distributed county-wide, including flow charts for emergency response

- Local public service announcements have been developed and recorded to promote the following information:
    - Educate the public to recognize the signs and symptoms of the flu
    - Encourage the public to voluntarily self-isolate or self-quarantine and for how long
    - Notify businesses that ill individuals should not go to work
    - Inform the public of hotline phone numbers and websites for pandemic influenza updates
    - Inform the public of where to obtain educational materials
    - Announce the cancellation of large public gatherings (concerts, sporting events, etc.)

6.0 EMS Pre-hospital & Hospital Care

Patients with severe pandemic influenza or disease complications are likely to require emergency transport to the hospital. The following information is designed to protect EMS personnel during transport.

- Screen patients requiring emergency transport for symptoms of influenza.
- Follow standard and droplet precautions when transporting symptomatic patients.
- Consider routine use of surgical or procedure masks for all patient transport when pandemic influenza is in the community.
- If possible, place a procedure or surgical mask on the patient to contain droplets expelled during coughing. If this is not possible (i.e., would further compromise respiratory status, difficult for the patient to wear), have the patient cover the mouth/nose with tissue when coughing, or use the most practical alternative to contain respiratory secretions.
- Oxygen delivery with a non-rebreather face mask can be used to provide oxygen support during transport. If needed, positive-pressure ventilation should be performed using a resuscitation bag-valve mask.
- Unless medically necessary to support life, aerosol-generating procedures (e.g., mechanical ventilation) should be avoided during pre-hospital care.
- Optimize the vehicle's ventilation to increase the volume of air exchange during transport. When possible, use vehicles that have separate driver and patient compartments that can provide separate ventilation to each area.
- Notify the receiving facility that a patient with possible pandemic influenza is being transported.
- Follow standard operating procedures for routine cleaning of the emergency vehicle and reusable patient care equipment.

Hospitals have been encouraged by ADHS to post visual alerts (in appropriate languages) at the entrances to hospital outpatient facilities (e.g., emergency departments, outpatient clinics) instructing persons with respiratory symptoms (e.g., patients, persons who accompany them) to:

- Inform reception and healthcare personnel when they first register for care, and

- Discourage unnecessary visits to medical facilities.
- Instruct symptomatic patients on infection control measures to limit transmission in the home and when traveling to necessary medical appointments.
- Practice respiratory hygiene/cough etiquette. Sample visual alerts are available at http://www.cdc.gov/germstopper/materials.htm and http://www.cdc.gov/flu/protect/covercough.htm.

ADHS has developed a Flu Education Toolkit specifically for Healthcare, Hospitals and Long-term Care and Assisted Living Agencies (located at http://www.azdhs.gov/flu/flu_toolkit_healthcare.htm). Most of the flyers, posters, brochures, and information sheets are also in Spanish.

As the scope of the pandemic escalates locally, separate triage areas for persons presenting with symptoms of respiratory infection have been suggested. Because not every patient presenting with symptoms will have pandemic influenza, infection control measures will be important in preventing further spread. During the peak of a pandemic, emergency departments and outpatient offices may be overwhelmed with patients seeking care. A "triage officer" may be useful for managing patient flow, including deferral of patients who do not require emergency care.

Hospitals have been educated to designate separate waiting areas for patients with influenza-like symptoms. If this is not feasible, the waiting area should be set up to enable patients with respiratory symptoms to sit as far away as possible (at least 3 feet) from other patients. Hospitals have also been advised to limit admission of patients to those with severe complications of pandemic influenza and who cannot be cared for outside the hospital setting, especially once a pandemic is underway. The decision to hospitalize a suspected pandemic influenza case will be based on the physician's clinical assessment of the patient as well as the availability of hospital beds and personnel.

Triage should be conducted to: 1) identify persons who might have pandemic influenza, 2) separate them from others to reduce the risk of disease transmission, and 3) identify the type of care they require (i.e., home care or hospitalization). High priority patients for hospital admission must either be unstable (difficulty breathing, unable to care for themselves, elderly, immune suppressed, seizing, unconscious, etc.), or a patient with high-risk conditions (as described in Appendix 1 of Supplement 5 of the ADHS Pandemic Influenza Response Plan) might also warrant special attention, such as observation or close follow-up, even if disease is mild.

Hospitals must also restrict access, and if needed implement a lockdown to prevent unwanted infected people from entering the facility.

1. Visitors should be limited to reduce the likelihood of pandemic influenza transmission among visitors, patients, and healthcare workers.
2. Visitors should receive infection control training from hospital infection control departments (e.g., brochures, video) and comply with infection control measures.
3. Symptomatic persons exposed to pandemic influenza patients should be excluded from visitation of patients that do not have the influenza.
4. Transportation of the patients within the facility does not need to be restricted. Patient transportation requirements are listed in Supplement 4, Infection Control. Disinfection of

the transportation equipment as well as other potentially exposed surfaces and equipment must take place.

5. Transportation outside of the facility may also be considered. Additional precautions and disinfection will be necessary if the person is undergoing mechanical ventilation.

7.0 Surveillance, Timing & Duration of Interventions

7.1 Surveillance

Preliminary analysis of historical data from selected U.S. cities during the 1918 pandemic suggests that timing and duration of implementation is significantly associated with overall mortality rates. Stopping or limiting the intensity of interventions, while pandemic virus was still circulating within the community, was temporally associated with slight increases in mortality due to pneumonia and influenza in some communities (CDC, 2007). Total duration of implementation for the measures specified in this plan will depend on the severity of the pandemic and total duration of the pandemic wave in the community, which may average about 6-8 weeks. However, because early implementation of pandemic mitigation interventions may reduce the virus's basic reproductive number, a mitigated pandemic wave may have lower amplitude but longer wavelength than an unmitigated pandemic wave. Arizona should therefore be prepared to maintain these measures for up to 12 weeks in a Category 4 or 5 pandemic.

Enhancing and maintaining sensitive and timely surveillance at national, State, and local levels is critical to the early detection of pandemic influenza within the State or country. The ADHS Office of Infectious Disease Services (OIDS), with the assistance of partners at the local public health agencies and in consultation with CDC, will provide descriptive and analytical epidemiological reports as needed to determine:

1. Extent of outbreak within Arizona, including numbers and rate of identified cases
2. Temporal description of outbreak
3. Risk factors for infection, illness, and complications of illness including death
4. Predominate symptomology in the community
5. Identifiable patterns of transmission

OIDS conducts routine surveillance for seasonal influenza each year, including the monitoring and analysis of:

- Influenza-like illness through the sentinel provider network;
- Positive laboratory reports for influenza from laboratories throughout the State;
- Sub-typing data for selected influenza isolates;
- Influenza-associated mortality data from County/State vital records offices;
- Influenza-associated pediatric mortality;
- Syndromic outpatient, laboratory request, and hospitalization data through BioSense; and
- Data from County health department influenza surveillance activities, including absenteeism rates from selected schools and workplaces.

During the influenza season, these data are analyzed and disseminated weekly through conference calls, the Health Alert Network, and the Department's public website. For quarantined patients, the State Laboratory would likely utilize and distribute to the County Health departments the Agency

for Toxic Substance and Disease Registry (ATSDR) form, which captures basic demographics and can easily be tailored to a pandemic influenza situation. This information would be entered into the CDC database, where the data can be quickly analyzed and managed.

The Department and partners at the local health departments will intensify surveillance activities during a Pandemic Alert (WHO Phases 3 through 5) in order to increase the timeliness and sensitivity of influenza reporting. Routine activities conducted for seasonal influenza surveillance will occur with greater frequency, and additional resources will be devoted to monitoring data quality and collection. Additional activities not traditionally utilized for seasonal influenza will also be implemented. These may include:

- Intensive investigation of clusters or suspect cases of pandemic influenza, including the use of rapid response teams;
- Active surveillance of hospitals, medical examiners' offices, schools, or selected workplaces;
- Increased specimen collection among suspect cases for testing at the State Public Health Laboratory;
- Screening and/or investigation of ill air travelers from high-risk areas; and
- Activation of the Public Health Incident Management System for coordinating the surveillance and other response activities.

Arizona's strategic plan for intensifying surveillance activities by successive WHO Pandemic Phases are provided in more detail in the Arizona Influenza Pandemic Response Plan, Supplement 1, at www.azdhs.gov/flu.

The ADHS Infectious Disease Surveillance and Preparedness Program is prepared to conduct, track, and report on disease surveillance activities in the following six categories during an influenza pandemic: outpatient (ILI) surveillance, hospitalization surveillance, mortality surveillance, laboratory surveillance, syndromic surveillance, and surveillance communications. Detection of early suspect cases of pandemic influenza within Arizona will require that local health care providers consider a diagnosis of pandemic influenza, likely based on both clinical presentation and epidemiological risk factors, and rapidly notify public health authorities to speed investigation and testing. While point-of-care testing for seasonal influenza has increased greatly over the past several years, only select laboratories currently have the ability to distinguish pandemic influenza from other (seasonal) influenza A viruses. Thus, the ability to transmit specimens to the State Public Health Laboratory is important, along with the transmission of data from both providers and laboratories to public health officials.

Communications are critical to all of the surveillance efforts described above. In addition to the activities mentioned, during WHO Pandemic Alert and Pandemic Phases, OIDS will be monitoring EpiX alerts and participating in CDC conference calls, and will disseminate information to local health departments, health care providers, and other partners through the Health Alert Network, conference calls, Epi-AZ newsletters, and other means.

7.2 Timing & Duration of Interventions

The decision to discontinue local mitigation measures must balance the need to lift individual movement restrictions with community health and safety. Premature cessation of containment

strategies can increase the risk of additional transmission. The decision to scale back containment should be based on evidence of improving local/regional control, such as:

- Consistent decrease in the number of confirmed cases
- Reduction in the number of probable and known cases
- Effective protective countermeasures are in place (e.g., high coverage with a pandemic influenza vaccine)

Ideally, recommendations are to discontinue the most aggressive or disruptive measures first, e.g., widespread community quarantine, stay-at-home days, mass transit interruptions, etc. General Counsel, Legislative Liaisons, Tribal Liaisons, Local Health Liaisons, Border Health Liaisons, the Governor's Press Secretary, ADEM Public Affairs Director, Arizona Office of Homeland Security, Arizona Department of Commerce Director, County Health department Directors and PIOs, and other stakeholders will be notified by ADHS that the pandemic threat is over. Notification that the pandemic is receding will then be made to the public and the media by the State spokesperson indicating that voluntary isolation, quarantine, adult and child social distancing are no longer necessary. Accurate information on status of the event and statewide readiness will be maintained on AZ 2-1-1.

Cessation of the community mitigation measures will occur when the CDC declares that Arizona is in the Deceleration Interval – Deceleration of the Pandemic Wave. During this interval, if it is evident that the rates of pandemic infection are declining, Arizona will begin planning for appropriate suspension of community mitigation activities and recovery. Arizona health officials may choose to rescind community mitigation intervention measures in selected regions within their jurisdiction, as appropriate.

When Arizona has <10% of specimens from patients with influenza-like illness submitted to the State public health laboratory that are positive for the pandemic strain for at least two consecutive weeks, or, the healthcare system capacity is below surge capacity, then the State will:

- Continue/initiate actions as outlined in the Peak/Established Transmission
- Assess, plan for, and implement targeted cessation of community mitigation measures if appropriate
- Transition surveillance from syndromic to case-based monitoring and confirmation
- Initiate targeted cessation of surge capacity strategies
- Maintain aggressive infection control measures in the community

8.0 Testing and Exercising Community Mitigation Interventions

Exercises are designed to implement the steps of a written plan from problem identification through public health stability/recovery. The goals in exercise play include: effective participation and coordination by all affected/responding agencies, effective communication, standardized and crisis-managed public information messages and preservation of human health and safety. Outcomes of exercise play include lessons-learned, identifying proficiencies, deficiencies and gaps and proposing modifications to plans and procedures.

ADHS recognizes that while a statewide effort will likely be used during an influenza pandemic, response will begin at the local level. ADHS has assisted counties and tribes to develop and

maintain well-exercised plans to respond to an event and to integrate public health into the overall emergency response infrastructure within the State of Arizona.

Effectiveness of mitigation interventions will be modeled after the results of multiple exercises that have/will be performed in combination with epidemiological monitoring of populations to compare to national averages.

9.0 Summary of Federal Authorities

Taken from the Health and Human Services (HHS) Pandemic Influenza Response Plan
http://www.hhs.gov/pandemicflu/plan/appendixe.html

Section 319(a) of the Public Health Service (PHS) Act (42 U.S.C. 247d), authorizes the HHS Secretary to declare a public health emergency. The Secretary can make and enforce regulations necessary to prevent the introduction, transmission, or spread of communicable diseases from foreign countries into the United States, or from one state or possession into any other state or possession. The Centers for Disease Control and Prevention (CDC) administers these regulations as they relate to quarantine of humans. Diseases for which individuals may be quarantined are specified by Executive Order; the most recent change to the list of quarantinable diseases was the April 1, 2005 Executive Order 13375, which amended the Executive Order 13295 by adding "influenza caused by novel or re-emergent influenza viruses that are causing, or have the potential to cause, a pandemic" to the list.

Other provisions in Title III of the PHS Act permit HHS to establish quarantine stations, provide care and treatment for persons under quarantine, and provide for quarantine enforcement. Section 311 of the PHS Act provides for Federal-State cooperative activities to enforce quarantine and plan and carry out public health activities. Section 311 also authorizes the Secretary to make available the resources of the PHS to help control epidemics and deal with other public health emergencies. HHS may also engage in certain international activities under section 307 of the PHS Act. Statute 42 U.S.C. § 97, which provides that the Secretary of Health and Human Services may request that Customs, Coast Guard, and military officers aid in the execution of quarantines imposed by states. The Secretary also has the authority to implement disease control measures in Indian country, if necessary. (25 U.S.C. 198, 231; 42 U.S.C. 2001). Indian Tribes, like states, are sovereign entities with police power authority to enact their own disease control rules and regulations.

Pandemic mitigation interventions will pose challenges for individuals and families, employers (both public and private), and local communities. Some cascading second and third order effects will arise as consequences of the use of NPIs. However, until a pandemic-strain vaccine is widely available during a pandemic, these interventions are key measures to reduce disease transmission and protect the health of Americans. The community mitigation strategy emphasizes care in the home and underscores the need for individual, family, and employer preparedness. Adherence to these interventions will test the resiliency of individuals, families, and employers.

9.1 Arizona-Mexico Border Coordination

During an infectious disease outbreak, including pandemic influenza, the Arizona-Sonora border region may be highly affected. Arizona and Sonora share a 370 mile (595km) border that includes

five international points of entry (POE) along the international U.S.-Mexico border. The POEs are situated in four Arizona border counties, the Tohono O'odham Nation, and two Sonoran jurisdictions that encompass six border municipalities. On a daily basis, tens of thousands of residents of the border region cross the border both north and southbound. Southwestern Arizona and Northwestern Sonora comprise a region rich in agriculture with a large fluid migrant farm worker population.

To increase the efficacy of coordinated activities between the Arizona Department of Health Services (ADHS) and the Secretaría de Salud Pública de Sonora (SSP) during a binational infectious disease outbreak such as pandemic influenza affecting Arizona AND Sonora, a regional response plan that links the two established State plans together has been developed. The Arizona–Sonora Regional Pandemic and Emergency Response Plan establishes procedures for cross-border coordination during an infectious disease outbreak. The ADHS Office of Border Health (OBH) serves as the primary conduit for public health communication and coordination between ADHS and the SSP. In the event of a public health emergency, threat of an infectious disease outbreak, or infectious disease outbreak affecting the Arizona-Sonora border region, or both States, the SSP will coordinate with the ADHS through the OBH, or other appointed personnel at the State level, to maintain binational communication and collaboration between both State-level public health agencies.

Cross-border coordination between ADHS and the SSP pertains to, but is not limited to, the following areas: communication, public information (media), sharing of public health information including epidemiology, infectious disease surveillance & laboratory surveillance data, and isolation and quarantine.

The SSP and ADHS will collaborate and exchange public health information to employ preventive measures to attempt to minimize the number of affected people during an infectious disease outbreak or public health emergency. The OBH serves as the primary conduit for binational communication and coordination for cross-border public health activities and incidents of public health concern. In the event of a public health emergency, the OBH staff will maintain communication with the Secretariat of Health (SSP) in Hermosillo, Sonora. Initial contact will be established via a telephone call, cellular or land line. A call down list is maintained and routinely updated by the OBH and SSP. All pertinent information, data and infectious disease case information, and laboratory testing protocols and results will be shared via the Secure Integrated Response Electronic Notification (SIREN) system: Email, Current Response portal, or the Border Health portal. If SIREN is unavailable, telephones and fax machines will be used to share information.

The OBH staff responsible for maintaining communication with the Sonora Secretariat of Health is the Office Chief, Border Preparedness Coordinator/EWIDS Program Manager, and the Border Surveillance Epidemiologist(s). If OBH personnel are not available to initiate and maintain communication with the SSP, an identified backup team of Spanish-speaking ADHS personnel will be established. The OBH will establish routine conference calls between the ADHS and the SSP, and may include representation from the Governors' Offices of Arizona and Sonora, and any other local, State and Federal agency as deemed necessary. Participants on the teleconference call will be determined by the ADHS and SSP and/or Governor's office of each respective state.

The SSP personnel at the local level border municipalities will first establish communication with the Sonora State level and other Sonora border region health entities in the event of a suspect or probable case of an infectious disease outbreak, or pandemic influenza. State level personnel from the SSP will then begin communication with the ADHS via the OBH Chief, or designee.

9.2 Addressing Travel-Related Risk

Travel-related risk in regards to an infectious disease outbreak or pandemic planning primarily refers to health effects associated with air travel, or any international travel (e.g., border crossings). The ADHS (OBH) and SSP will coordinate with U.S. Customs and Arizona region Border Protection and Mexican Customs (Aduana) to address travel-related risk for international crossings at the Arizona-Sonora ports of Entry. In Arizona, ADHS will coordinate with the Centers for Disease Control and Prevention (CDC) to provide guidance for travel-related containment measures to local health departments, and provide public information to residents for travel to countries of concern for exposure.

As with community containment, travel-related containment if often best addressed at the local level, although many situations may involve ADHS and the federal government, due to federal ports of entry and quarantine authority for international travel laws. Affected County and tribal health departments are encouraged to work with ADHS while preparing for and enacting containment measures to address travel-related risk (Refer to Arizona Influenza Pandemic Response Plan, Supplement 9: Travel-Related Risk of Disease Transmission).

Awareness at the Sonora Border is the SSP responsibility. The SSP will implement measures to limit diffusion of infection by national and international travel at the US-Mexico international border POEs. Information will be provided to national and international travelers, and periodical revisions of control measures will be made for travelers in the border region to reduce the risk of infection. The SSP will coordinate with authorities at the ADHS to implement these measures.

The Mexican Epidemiological and Health Intelligence Unit's (UIES) function at the international border POEs is to meet with authorities at each of the POEs recognized by the State and revise emergency procedures jointly with Mexican customs authorities. A central operation center will be established at the State-recognized POEs, and a list of personnel responsible for covering all scheduled land border crossing shifts will be presented. A request will be made for a room for isolation and an area designated for land transportation. UIES will visually inspect vehicle passengers and transportation vehicle passengers, and assess travelers by asking health-related questions.

10.0 State Contact Information

Lead Individual for the State of Arizona:

Teresa Ehnert, Office Chief, Emergency Preparedness, Arizona Department of Health Services
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602-364-3571
ehnertt@azdhs.gov

11.0 NIMS Compliance

The Arizona Department of Health Services has incorporated elements of the National Incident Management System (NIMS) into its emergency response plan. This plan is compliant with NIMS. The Department's response structure is the Public Health Incident Management System (PHIMS). It is an incident command system (ICS) that provides for the integration of various programs' activities into a cohesive response for an emergency. The 15 Arizona local County health departments operate under the same components of NIMS.

APPENIDIX 1

Human Influenza A (H5) Domestic Case Screening Form

Human Influenza A (H5)

Human Influenza A (H5) Domestic Case Screening Form

CDC Case ID:

1. Reported By

Date reported to state or local health department: __ __ / __ __ / __ __ __ __ m m d d y y y y		State/ local Assigned Case ID:
Last Name:		First Name:
State:	Affiliation:	Email:
Phone 1:	Phone 2:	Fax:

2. Patient Information

City of Residence: County: State:

Age at onset: _____ ☐ Year(s) ☐ Month(s)

Sex: ☐ Male ☐ Female

Race: *(Choose One)*
☐ American Indian/Alaska Native
☐ White
☐ Asian
☐ Black
☐ Native Hawaiian/Other Pacific Islander
☐ Unknown

Ethnicity: ☐ Non-Hispanic ☐ Hispanic

3. Optional Patient Information

Last Name: First Name:

4. Signs and Symptoms

A. Date of symptom onset: __ __ / __ __ / __ __ __ __
m m d d y y y y

B. What symptoms and signs did the patient have during the course of illness?
(check all that apply)

☐ Fever > 38° C (100.4° F) ☐ Feverish (temperature not taken) ☐ Conjunctivitis

☐ Cough ☐ Headache ☐ Shortness of breath

☐ Sore throat ☐ Other (specify): _____

C. Was a chest X-ray or chest CAT scan performed? ☐ Yes* ☐ No ☐ Unknown

If yes*, did the patient have radiographic evidence of pneumonia or respiratory distress syndrome (RDS)? ☐ Yes* ☐ No ☐ Unknown

Human Influenza A (H5)

Epidemiologic Risk Factors **CDC Case ID:**

5. Travel/Exposures

A. In the 10 days prior to illness onset, did the patient travel to any of the countries listed in the table below?
If yes*, please fill in arrival and departure dates for all countries that apply.

□ Yes* □ No** □ Unknown

****If patient did not travel outside U.S., skip to question 6.**

Country	Arrival Date	Departure Date	Country	Arrival Date	Departure Date
□ Afghanistan			□ Myanmar (Burma)		
□ Bangladesh			□ Nepal		
□ Brunei			□ North Korea		
□ Cambodia			□ Oman		
□ China			□ Pakistan		
□ Hong Kong			□ Papua New Guinea		
□ India			□ Philippines		
□ Indonesia			□ Saudi Arabia		
□ Iran			□ Singapore		
□ Iraq			□ South Korea		
□ Israel			□ Syria		
□ Japan			□ Taiwan		
□ Jordan			□ Thailand		
□ Laos			□ Turkey		
□ Lebanon			□ Viet Nam		
□ Macao			□ Yemen		
□ Malaysia					

For the questions 5B to 5E,
In the 10 days prior to illness onset, <u>while in the countries</u> listed above . . . .

B. Did the patient come within 1 meter (3 feet) of any live poultry or domesticated birds (e.g. visited a poultry farm, a household raising poultry, or a bird market)? □ Yes* □ No □ Unknown

If Yes*

C. Did patient touch any recently butchered poultry? □ Yes □ No □ Unknown

D. Did the patient visit or stay in the same household with anyone with pneumonia or severe flu-like illness? □ Yes □ No □ Unknown

E. Did the patient visit or stay in the same household with a suspected human influenza A(H5) case?* □ Yes □ No □ Unknown

F. Did the patient visit or stay in the same household with a known human influenza A(H5) case?* □ Yes □ No □ Unknown

* *SEE Influenza A (H5): Interim U.S. Case Definitions*

Human Influenza A (H5)

CDC ID:

6. Exposure for Non Travelers	
For patients whom did not travel outside the U.S., in the 10 days prior to illness onset, did the patient visit or stay in the same household with a traveler returning from one of the countries listed above who developed pneumonia or severe flu-like illness?	☐ Yes* ☐ No ☐ Unknown
If yes*, was the contact a confirmed or suspected H5 case patient?	☐ Yes* ☐ No ☐ Unknown
If yes*: CDC ID: _____ STATE ID: _____	

Laboratory Evaluation

7. State and local level influenza test results	
Specimen 1	
☐ NP swab ☐ Broncheoalveolar lavage specimen (BAL) ☐ NP aspirate ☐ OP swab ☐ Other _____	Date Collected: __ __/__ __/__ __ __ __ m m d d y y y y
Test Type: ☐ RT-PCR ☐ Direct fluorescent antibody (DFA) ☐ Viral Culture ☐ Rapid Antigen Test* *Name of Rapid Test:	Result: ☐ Influenza A ☐ Influenza B ☐ Influenza (type unk) ☐ Negative ☐ Pending
Specimen 2	
☐ NP swab ☐ Broncheoalveolar lavage specimen (BAL) ☐ NP aspirate ☐ OP swab ☐ Other _____	Date Collected: __ __/__ __/__ __ __ __ m m d d y y y y
Test Type: ☐ RT-PCR ☐ Direct fluorescent antibody (DFA) ☐ Viral Culture ☐ Rapid Antigen Test* *Name of Rapid Test:	Result: ☐ Influenza A ☐ Influenza B ☐ Influenza (type unk) ☐ Negative ☐ Pending
Specimen 3	
☐ NP swab ☐ Broncheoalveolar lavage specimen (BAL) ☐ NP aspirate ☐ OP swab ☐ Other _____	Date Collected: __ __/__ __/__ __ __ __ m m d d y y y y
Test Type: ☐ RT-PCR ☐ Direct fluorescent antibody (DFA) ☐ Viral Culture ☐ Rapid Antigen Test* *Name of Rapid Test:	Result: ☐ Influenza A ☐ Influenza B ☐ Influenza (type unk) ☐ Negative ☐ Pending

Human Influenza A (H5)

CDC ID:

8. List specimens sent to the CDC

Select a SOURCE* from the following list for each specimen: Serum (acute), serum (convalescent), NP swab, NP aspirate, broncheoalveolar lavage specimen (BAL), OP swab, tracheal aspirate, or tissue

Specimen 1: □ Clinical Material □ Extracted RNA □ Virus Isolate	Source*: _____	Collected : __ __ / __ __ / __ __ __ __ m m d d y y y y Date Sent: __ __ / __ __ / __ __ __ __ m m d d y y y y
Specimen 2: □ Clinical Material □ Extracted RNA □ Virus Isolate	Source*: _____	Collected : __ __ / __ __ / __ __ __ __ m m d d y y y y Date Sent: __ __ / __ __ / __ __ __ __ m m d d y y y y
Specimen 3: □ Clinical Material □ Extracted RNA □ Virus Isolate	Source*: _____	Collected : __ __ / __ __ / __ __ __ __ m m d d y y y y Date Sent: __ __ / __ __ / __ __ __ __ m m d d y y y y
Specimen 4: □ Clinical Material □ Extracted RNA □ Virus Isolate	Source*: _____	Collected : __ __ / __ __ / __ __ __ __ m m d d y y y y Date Sent: __ __ / __ __ / __ __ __ __ m m d d y y y y
Specimen 5: □ Clinical Material □ Extracted RNA □ Virus Isolate	Source*: _____	Collected : __ __ / __ __ / __ __ __ __ m m d d y y y y Date Sent: __ __ / __ __ / __ __ __ __ m m d d y y y y
Carrier:	Tracking #:	

9. Case Notes:

Human Influenza A (H5)

CDC ID:

CDC Contact Information (FOR CDC USE ONLY)	
Case status and date status applied: ☐ Clinical Case (lab results pending) __ __/__ __/__ __ __ __ (m m d d y y y y) ☐ Influenza A pos. Case (subtype pending) __ __/__ __/__ __ __ __ (m m d d y y y y) ☐ Confirmed Case __ __/__ __/__ __ __ __ (m m d d y y y y)	☐ Ruled Out/Non-Case: __ __/__ __/__ __ __ __ (m m d d y y y y) Reason: ☐ Influenza A neg. (by PCR, viral culture, or influenza A serology) ☐ Non-H5 Influenza Strain ☐ Other etiology* ☐ Did not meet case definition
Date Entered by CDC: __ __/__ __/__ __ __ __ (m m d d y y y y)	Contact Date: __ __/__ __/__ __ __ __ (m m d d y y y y)
Name of CDC Contact:	

***Alternative Diagnosis**

A. Was an alternative non-influenza respiratory pathogen detected?	☐ Yes* ☐ No
If yes* specify:	☐ Unknown
B. Was there a diagnosis other than respiratory infection?	☐ Yes* ☐ No
If yes* specify:	☐ Unknown